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IN THE

Supreme Court of the United States

OCTOBER TERM, 1966

No. .....

GENERAL PLYWOOD CORPORATION,
Petitioner,
v.
UNITED STATES PLYWOOD CORPORATION,
Respondent.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SIXTH CIRCUIT

General Plywood Corporation prays that a writ of certiorari issue to review the judgment of the United States Court of Appeals for the Sixth Circuit, entered in the above-entitled case on December 28, 1966.

CITATIONS TO OPINIONS BELOW

The Opinion of the District Court (R 41a), printed in the Appendix hereto, at p. 33 is reported at 230 F. Supp. 831. The Opinion of the Court of Appeals as corrected following a petition for rehearing, printed in the Appendix hereto at p. 46 is reported at 370 F 2d 500.

JURISDICTION

The Judgment of the Court of Appeals was entered on December 28, 1966, Appendix hereto p. 61. A petition for rehearing printed in the Appendix at p. 61, was filed on January 17, 1967. The Court of Appeals on February 8, 1967 denied the petition for rehearing but amended its Opinion by a Supplemental Opinion printed in the Appendix at p. 68. Jurisdiction of this Court is invoked under 28 U.S.C. 1254 (1) and 2101 (c).

QUESTION PRESENTED

Can infringement of a valid patent on a process which constitutes a substantial advance in the art be avoided by varying the details of the apparatus employed in performing the process if there is no departure from the mode of operation or the result achieved and the patent claims do not preclude such variation in the apparatus?

CONSTITUTIONAL PROVISION AND STATUTES INVOLVED

United States Constitution, Article I, Section 8, Clause 8.

> "The Congress shall have the power * * * to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."

66 Stat. 797, Title 35, U.S.C., "Chapter 10—Patentability of Inventions", Section 101, "Inventions Patentable".

"Whoever invents or discovers any new and useful process * * * or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title."

66 Stat. 797, Title 35, U.S.C., "Chapter 10—Patentability of Inventions", Section 100, "Definitions".

"When used in this title unless the context otherwise indicates * * *

"(b). The term 'process' means process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material."

66 Stat. 798, Title 35, U.S.C., "Chapter 11—Application for Patent", Section 112, "Specification".

"The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

"The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention."

"An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof."

66 Stat. 804, Title 35, "Chapter 14—Issue of Patent", Section 154, "Contents and term of patent".

> "Every patent shall contain a short title of the invention and a grant to the patentee, his heirs or assigns, for the term of seventeen years, of the right to exclude others from making, using or selling the invention throughout the United States, referring to the specification for the particulars thereof. * * *

66 Stat. 811, Title 35, "Chapter 28—Infringement of Patents", Section 271.

> "(a) Except as otherwise provided in this title, whoever without authority makes, uses or sells any patented invention, within the United States during the term of the patent therefor, infringes the patent."

STATEMENT

Introduction

This patent infringement action was initiated by a Complaint filed by United States Plywood Corporation asking for a Declaratory Judgment that the patent to Alexander No. 2,827,935, was invalid and not infringed by United States Plywood (R 22a). General Plywood Corporation, owner of the patent, counterclaimed for infringement and for breach of trust (R 26a). The District Court for the Western District of Kentucky adjudged (Appendix p. 45) that the patent was valid but not infringed, and that there was no breach of trust by United States Plywood (R 50a). Both parties appealed (R 51a-2a); and the Court of Appeals for the Sixth Circuit affirmed.

In this Statement the process claimed in the patent in suit and the accused processes are described briefly, together with a showing that the holding of non-infringement by the Courts below rests entirely upon differences in the equipment used rather than any difference between the patented and accused processes, and a showing that the language of the patent claims does not preclude the use of the equipment employed by United States Plywood in the accused processes.

The Patented Process

The patent to Alexander, No. 2,827,935 (PX 1055, R 3056a-62a) covers a process for treating flat surfaces to make them less porous and more uniform so that they may be finished more easily and inexpensively by the usual lacquer coats employed on furniture and wall paneling.

The process is used by both parties on plywood panels[1] of the type used in paneling the interior walls of homes and offices. The Court of Appeals in its Opinion correctly described the prior art procedure for finishing such panels, as follows (Appendix, p. 47):

> "The industry prepared such panels for factory finishing (or for sale to the construction industry unfinished) by running the panels through a series of machine sanders (usually three). The first such machine employed a rough sandpaper of 1/0 grit; the next two were progressively finer. It appears that the finest in general use by the industry at this

[1] These panels are usually four feet wide and eight to ten feet long, except in the case of panels forming the faces of doors which may be of slightly less width.

stage, prior to the event we deal with, was 4/0 grit."[2]

"This sanding produced plywood panels ready for finishing and termed in the industry 'wood in the white'. The surface while relatively smooth was porous, somewhat fibrous, absorptive and without gloss or sheen.

"Subsequently, to change all these surface characteristics, finishing required filler, stain, lacquer and polishing."

Thus the panels were subjected to a sanding process to cut or abrade the major roughness away, followed by a finishing process to coat and protect the surface. However, the sanded wood surface (even though it was "fine" sanded) was porous, and, moreover, was of variable porosity from spot to spot. As a result, the lacquer which was applied to create a finish coating, was not only absorbed into the wood but was unevenly absorbed so that the wood industry was required to apply sufficient lacquer (normally in the form of several coats) to build a uniform coating (R 553a; 1543a; 1575a-82a; DX 2093, R 3568a, 1775a-6a; DX 2056, R 3493a-4a, 1447a). Moreover, it was necessary in prior practice to sand lightly between coats of finishing materials to remove the "nibs" or partially loosened fibers which raise through the coating (R 346a-7a; DX 2056, R 3455a-6a, 1447a; 2085a; 96a-7a).

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[2] Coated abrasives such as sandpaper are graded according to the size of the grit particles. The grading system is set forth in the tabulation in Admission 8 by USP in DX 2056 at R 3455a, 1447a. The "ought" system of designating grit size will be used in this brief. The 1/0 grit (pronounced "one ought") is a "coarse" grit which will just pass a 50 mesh screen having 50 wires per inch, while 4/0 ("four ought") grit is in the middle of the "fine" range and will pass through a 150 mesh screen.

The patented process, which has been named the "micro-seal" process, is an additional process performed after all steps of the sanding process are completed and before the normal finishing process is started. It serves to render the wood surface smoother and less porous and semi-permanently bond the nibs to the surface by the momentary and uniform application of frictional heat and pressure. The friction heats a thin surface layer of the wood to a temperature at which it is softened, without heating the underlying wood, so that the pressure exerted by the rubbing medium can compress the heated surface layer without compressing the underlying wood. This result is achieved while the wood panels are moving continuously along a conveyor line at a feed rate in the order of 90 feet per minute. The rubbing treatment is confined to a stationary zone in the form of a narrow band extending entirely across the flat wood surface transversely to the direction of travel. As a result, the length of the treatment for any given spot on the surface is only a fraction of a second. This confines the frictionally generated heat to an exceedingly thin layer from which the heat is almost instantly dissipated when the wood passes out of contact with rubbing medium, thereby permitting the compressed wood to stabilize.

The preferred apparatus described in the patent (R 3056a-8a) for practicing the process is a type of prior art sanding machine known as a wide belt machine[1] on which is placed a belt suitable for frictionally rubbing and compressing the wood surface. The machine has a cylindrical rubber-covered roller or drum over which the belt passes and which presses the belt against the wood surface in a narrow band of contact extending across the width of the panel and drives the belt relative to the wood surface at a

[1] One make of wide belt machine known as a "Timesavers" machine was used by both parties (Admissions 7c and 21, DX 2056, R 3453a and 3457a, 1447a)

rubbing speed of several thousand feet a minute. The rubbing speed and pressure and the work feed speed are adjusted and correlated in the manner described in the patent to achieve the desired results, the preferred conditions being those which will heat the surface wood to a temperature just below scorching temperature in the brief treatment time. It should be noted that in order to practice the process, the belts must be slightly wider than the piece of wood to be treated. Thus, to treat the four foot wide plywood panels made by both parties requires a large machine and a 50 inch wide belt.

It is unnecessary to describe further the details of the machine or the manner in which it is operated because the only difference between the patented process and the accused processes used by United States Plywood resides in the construction of the belt employed.

The patent recommends as the preferred belt one having a cork surface incorporatihg a very mild abrasive, but it states that (R 3058a):

> "Any other flexible, yielding, relatively nonabrasive frictional rubbing medium or frictional belt material, such as canvas, or other cloth made of natural or synthetic fibers, may be employed so long as it is capable of frictionally developing the requisite temperature when the requisite operating conditions are employed, and of withstanding both the operating temperatures and pressures."

Consistent with the above, the claims of the patent do not specify any particular belt material. Claim 7,* for example, merely calls for "an endless flexible rubbing

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*While most if not all claims are equally infringed, claim 7 can be taken as representative for purposes of this case. It is printed in the Appendix hereto at p. 69. Claim 11 quoted by the Court below is a broader claim.

medium, having a yielding relatively nonabrasive frictional heat insulating rubbing surface" (R. 3061a). A relatively nonabrasive belt is required to avoid removing all of the compressed surface layer as it is formed, but some wood will be removed in any rubbing action severe enough to develop the requisite frictional heat.

The Patented Process was a Substantial Advance in the Art.

The addition of the microseal process intermediate the commercial wood sanding and finishing operations entails an additional procedure and an additional investment in equipment (R. 1200a; DX 2056, R 3468a, 3485a and 3487a, 1447a). Despite that fact, the resulting improvement in the final appearance and saleability of the finished wood products and the reduction in the total cost of manufacture have been such as to lead to widespread commercial adoption of the process. As the Court of Appeals correctly held:

> "The Alexander process was both new in the industry and of great commercial value" (Appendix, p. 55).

The process was practised by General Plywood and the improvement in its products saved General Plywood's business when it was threatened by a business slump and severe import competition (R 1238a, 1895a; 2077a-8a). A number of manufacturers practised the process under license from General Plywood (R 3611a; 2032a-34a). The process was industry-wide in its impact (DX 2056, R 3518a and 3520a-1a, 1447a), and was deemed "revolutionary" by the manufacturer of the "Timesavers" wide belt machines used by both parties (U.S. Plywood's witness Pendergast, DX 2022, R. 3358a, 1219a). A Vice President of Carborundum Company, one of the largest suppliers of coated abrasives to the woodworking industry, similarly characterized

the process (PX Carbo 89, R 2384a, 1184a; DX 2170, R 3661a-2a, 2188a) and his top technical expert testified that it had "revolutionized the plywood and door industry in the United States" and that the process had been of "great help in fighting off the extremely serious threat of imported plywood without which the situation for U. S. manufacturers would be many times worse than it is" (R 1888a-9a).

One of the "novel features" of the process which had led to its widespread adoption was characterized by the Court of Appeals as follows (Appendix p. 54):

> "The employment of relatively high speeds and pressures correlated to achieve the impact of heat just below scorching helped to achieve a surface smoothness, density and gloss in one machine operation which made subsequent finishing operations substantially simpler and less expensive."

The noted reduction in cost of finishing operations resulted from the fact that the process eliminated the need for at least one finishing coat of lacquer and related treatments (DX 2056, R 3487a and 3493a-4a, 1447a; DX 2028, R 3365a-6a, 1245a; 1927a-34a; 1649a; DX 2093, R 3568a, 1576a; 1575a-82a).

The Accused Operations

It is not disputed that in each of the accused operations United States Plywood treats flat wood panels in a wide belt machine of the type described in the Alexander patent. However, in the place of the cork belt recommended in the patent, United States Plywood uses a belt of exceedingly fine grit sandpaper or sanding cloth; and it is on this substitution that the Courts below have rested their holdings of noninfringement.

The very fine sandpaper belts first used for this purpose by United States Plywood were purchased from Minnesota

Mining & Mfg. Co. (hereinafter called 3M), which sold them to United States Plywood as "Burnishing Belts" on the basis that they would duplicate the performance of the cork belt in the microseal process (DX 3M162, R 2814a-16a, 437a; DX 2056, R 3478a-9a, 1447a; 494a-5a; 314a). These belts were specially dulled 10/0 grit* belts that were developed by 3M after the microseal process had been disclosed in confidence to 3M by General Plywood (R 45a) and after General Plywood had informed 3M that the microseal process could be practiced with belts other than the cork belt which was being supplied by 3M (PX 1103, R 3304a, 2330a; PX 3M142, R 2797a, 1019a).

Prior to its first purchase or use of the 10/0 "Burnishing Belt", United States Plywood was considering General Plywood's offer of a license to use the microseal process, having, for evaluation purposes, obtained from General Plywood a full disclosure of all details of the process (DX 2056, R 3467a-72a, 1447a; 717a-8a; 2179a-80a). When United States Plywood sought to purchase cork belts from 3M for trial, 3M responded by offering the "Burnishing Belt" as a substitute. After a trial to satisfy itself that the 10/0 "Burnishing Belt" did duplicate the results of the cork belt, United States Plywood adopted the accused process, using the 10/0 "Burnishing Belt", designated its process the "Micro-Fine" process, and rejected General Plywood's offer of a license (DX 2056, R 3480a-91a, 1447a; 964a).

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* Abrasive grits of 6/0 and finer are graded "very fine" and 10/0 is one of the finest of these. The 10/0 grits will pass through a 400 mesh screen (DX 2056, R 3455a, 1447a). A small specimen cut from a 10/0 "Burnishing Belt" is fastened to the inside back cover of this Petition. It corresponds to the sample which is in evidence as physical exhibit PX 1001 (R 183a).

United States Plywood calls its accused Micro-Fine process a super-fine sanding operation but in view of the following admissions, that process is unlike any prior art sanding operation and has all of the characteristics of the microseal process: Thus,

1. United States Plywood witnesses and its own reports show that scorching is occasionally observed in the practice of the accused process. (R 334a; 582a-3a; 2185a; DX 2056, R 3483a-7a and 3492a-3a, 1447a; 1150a-1a; 2312a). This demonstrates that the surface of the wood is being raised to the temperature at which it can be compressed and densified, which a sanding operation admittedly does not and cannot do (DX 2055, R 3439a, 2178a; PX 1055, Tab 1, R 3058a).

2. United States Plywood does not challenge the evidence as to the pressures used in its accused operations. In a number of the accused operations, the pressures used (DX 2083 A and B, R 3559a-60a, 1526a; 1675a-9a) are even higher than those recommended in the patent (R 3060a); and in all cases the pressures used far exceed any pressure used in the prior art for sanding white wood with "very fine" grits (R 795a; 1799a).

3. United States Plywood boasted that the product of its Micro-Fine process was less porous than prior sanded panels. Thus, in a bulletin to the trade announcing the first commercial use of the process, it said:*

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*Admission 77 by USP, DX 2056, R 3493a-3494a, 1447a (Italics added).

"There is a difference!" * * *

"1) We have found in our prefinished work that it is *almost equal to another coat of lacquer as far as film build is concerned.* The finishing materials *do not seep down* into the fiber surface and *disappear*—they stay *up on top* of the final sanded panel."

"2) The surface is much more uniform. *Fillers and stains take more evenly and cleanly.* The result is vastly improved grain definition—the figure and beauty is actually lifted out."

This demonstrates conclusively that United States Plywood is obtaining the results of the microseal process.

4. That the results of the microseal process are unique and not achieved by a wood sanding operation is shown by the admission of United States Plywood that a sanding operation is a pure cutting operation which smooths a wood surface by cutting away the high spots without densifying the surface. (DX 2055, R 3437a-41a, 1447a)

It is apparent from the foregoing that United States Plywood can call the accused process a "sanding" operation only in the sense that it is using "sandpaper". By the same token, if one were to drive a nail with a shovel, the operation could be called a shoveling operation.

The 10/0 grit belts and the cork belts are equally effective to perform the microseal process and for the same reason; neither is sufficiently abrasive to remove the densified layer which results from the high pressure rubbing action (R 1439a-40a; 1456a; PX 1053, R 2978a; DX 2056, R 3498a, 1447a; 905a). Due in part to the extreme fineness of the 10/0 grit and in part to the fact that the spaces between

them become filled with packed wood dust, the belt surface in use is largely wood rather than the aluminum oxide grits (R 1870a-1a; 559a; 3912a; 2154a).

There is no evidence that 10/0 grit sandpaper had ever been used on a wide belt machine for treating either finishing coats or white wood prior to the invention of the microseal process by Alexander and the disclosure of that process in confidence to 3M. Moreover, the finest sandpaper previously used commercially by United States Plywood on white wood was 4/0 grit.[7] There is evidence that 8/0 and coarser sandpaper sheets were used by others for light scuff sanding of white wood at pressures of ⅛ to ⅓ pound per square inch (R 795a; 1799a), but the pressures used in the accused operations are at least ten times as high and, in most cases, twenty-five times as high.

The Fine Grit Belts Employed in the Accused Processes Come Within the Terms of the Patent Claims

The Court below erroneously construed the claims of the patent to require belts differing from those used in the accused processes and thus, supported its conclusion that there was no infringement. The uncontradicted evidence and admissions bearing on the supposed distinctions are outlined below.

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[7] Requested Admission 12 (DX 2056, R 3456a, 1447a) describes the prior sanding practices of United States Plywood. While that request was denied the answer of United States Plywood to Interrogatory 133, (DX 2055, R 3441a-2a, 2178a) shows that the requested admission correctly described its prior white wood sanding procedures.

"Relatively Nonabrasive"

Claim 7 and other claims of the Alexander patent state that the surface used to rub the wood is "relatively nonabrasive". The Court below held that the fine grit belts as used by United States Plywood were not "relatively nonabrasive" because they removed "significant amounts of stock".

The parties are in agreement that the degree of abrasiveness of the belts is measured by the amount of wood removed (R 288a; 1854a-8a); and United States Plywood admitted that its own tests demonstrated that a broken-in cork belt was slightly more abrasive than even a new 10/0 belt (R 298a; 971a). United States Plywood also measured the amount of wood removed by the 10/0 belt in one of its accused operations at Orangeburg (PX 1006, R 2908a-9a; R 254a-5a). The quantity removed in those tests matched very closely the quantity of wood removed in similar tests conducted with both cork *and* 10/0 belts by General Plywood in the presence of an expert and trial counsel for United States Plywood (DX 2097, R 3569a; 1582a-4a).

Thus, the evidence adduced by both parties is in complete agreement that the 10/0 belt is no more abrasive than the cork belt. Since the cork belt is described as "relatively nonabrasive" in the patent, that expression is equally applicable to the 10/0 belt.

Tests conducted by both parties also showed that the amount of wood removed by the 10/0 belt in the practice of the microseal process is about one-fifth or less that removed in a 6/0 sanding operation even though the microsealing pressure was twice that of the sanding operation (PX 1006, R 2900a-13a; 250a-4a; 310a; and DX 2097, R 3569a, 1582a). This shows that the choice of the expression "relatively nonabrasive" was appropriate to describe the

micro-sealing belts, whether cork or 10/0. The 6/0 sandpaper used as a basis for comparison is graded "very fine" and is finer than any used in regular production by United States Plywood prior to its receipt of knowledge of the microseal process.

Evidence as to the abrasiveness of the 9/0 and 8/0 belts, as used by United States Plywood in the accused operations at its Seattle plant, shows that those belts are also relatively nonabrasive in the sense of the patent (DX 2097, R 3569a, 1582a-4a; 1673a; 2151a-60a).

"Non-metallic"

The Courts below appear to hold that the patent in suit was limited to the use of non-metallic belts and that the belts used in the accused processes were metallic. But the term "non-metallic" does *not* appear in any claim of the patent and the belts used in the accused processes are *not* metallic.

The claims *do* specify a belt of "heat insulating" material and the specification (R 3058a), in describing the cork and cloth belts, which are specifically mentioned, notes that they are non-metallic and that since they are poor heat conductors "in comparison with metal" they may be described as a heat insulating material. This is the only mention of metal or non-metallic in the patent and it is not a requirement that the belts be non-metallic.

The Courts below have not questioned that the belts used in the accused processes are made of "heat insulating material", and there is ample evidence in the record that they are in fact poor conductors of heat compared with metal (R 2201a-2a; 1870a-1a; 1887a-8a; 1568a-9a).

There is not one iota of evidence to support the conclusion that any portion of the belts used in the accused operations is metallic. The tiny pieces of grit are aluminum oxide crystals, i.e., corundum, the same material as a ruby. Aluminum oxide is not metallic and even if it were so considered, it was admitted by Mr. Back, one of the expert witnesses for United States Plywood (R 195a), that it was a poor conductor of heat compared with metal, and that its heat conductivity is further reduced in the belts because it is broken into small separated crystals (R 2201a-2a). Of course, the belts as a whole consist of paper or cloth, glue and packed wood dust, all poor conductors of heat (R 2201a-2a; 1416a; 1870a-1a; 1887a-8a; 1568a-9a).

"Flexible"

The holding of the Court of Appeals that the belts used in the accused operations are not "flexible" is not explained and is not understood in view of the unquestioned fact they are endless belts which run over the pulleys or rollers of the wide belt machines on which they are used by both parties (DX 2056, R 3521a-22a, 3453a-4a; 1447a). All belts of this type must be flexible or they would break as they bend around the rollers.

"Yielding"

An important feature of the microseal process is that the rubbing member be yielding so that it can accommodate itself to any minor lack of flatness of the wood surface and thus act equally on both high and low spots[8] (R 1882a-5a; 1416a-7a; 1440a; 1539a; DX 3M169C, 2821a; 466a; 471a; 323a-4a).

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[8] This differs from a sanding operation which makes a surface more flat by cutting off the high spots.

It is admitted by United States Plywood that the back-up roll that presses the belt against the wood surface in the accused operation has a soft rubber covering which permits the flexible belt to yield and accommodate itself to irregularities in the wood surface (R 309a-10a). Moreover, this rubber backing is admittedly softer rubber than that on similar machines used by United States Plywood for true sanding operations with 6/0 and coarser grits (DX 2083, R 3559a-60a; 1526a; DX 2056, R 3525a and 3528a; 1447a). This is all that is contemplated by the term "yielding" in the claims of the patent.

The Erroneous Holding That the Patent Is Limited to the Use of Belts "Originally Designed" to be Relatively Nonabrasive

The Court of Appeals concurred in a holding to the above effect by the District Court; and also with the further statement that "it would be illogical to conclude that his [Alexander's] patent could be infringed by a belt designed and manufactured as an abrasive instrument but which became relatively non-abrasive because it was worn by use."

The purpose for which a belt is designed is certainly irrelevant, as is clear from the fact that the cork belt itself was not designed for use in the microseal process, but rather as an abrasive for polishing glass while wet with water (R 504a-5a; PX 1055, Tab 2, R 3063a-6a). Actually, the first belt that was ever designed solely and exclusively for the purpose of practicing the microseal process is the 10/0 "Burnishing Belt" used in certain of the accused processes. That belt was made by 3M for the express purpose of duplicating the results previously obtained by the cork belt in the microseal process (R 494a-5a; DX 3M162, R 2814a, 437a; DX 3M169, 2816a-23a, 466a; DX 2007, R 3338a-9a, 495a-6a).

It is also irrelevant that the belts used in the accused processes require a short break-in before they perform a satisfactory job of microsealing, because the same is true of the cork belt.[9] The primary evidence on which General Plywood relies to establish that in actual commercial use by United States Plywood, the 10/0 belt is "relatively nonabrasive" is the evidence *which was introduced by United States Plywood*[10] to show the abrasiveness of those belts in actual commercial operations at Orangeburg in terms of the amount of wood removed. If that evidence establishes that the 10/0 belt is relatively nonabrasive, that issue should be decided in favor of General Plywood. Of course, no recovery can be had for panels treated during a break-in period in which the process is not performed, if there is any such period; unless those panels are rerun thereafter.

The Holding of Non-Infringement by the Courts Below is Based Solely on Differences in the Construction of the Belts Used

Neither of the Courts below have found that the manipulative steps of the accused processes differ from those of the patent in any way or that there is any difference in the results achieved. The Court of Appeals does refer to the

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[9] The evidence indicates that if no accelerated break-in procedure is used it requires treatment of a number of panels under standard microsealing conditions before a belt performs good work. This preliminary period in the case of the 10/0 belt is about 4 to 6 panels, which is less than one-tenth of one percent of the expected useful life of the belt; in the case of the 9/0 belt, about 50 panels (less than 1% of its useful life), and for an 8/0 belt, about 300 to 400 panels (less than 5% of its useful life). The cork belt requires treatment of about 50 panels before it does good work, if not otherwise broken-in (R 1954a-5a and 391a). This break-in period is taken care of automatically at United States Plywood by rerunning defective panels (R 946a-7a; 288a-91a; 303a-4a).

[10] This evidence was evidently offered by United States Plywood in the belief that proof of any wood removal would support a holding of non infringement.

accused operation as a "fine sanding operation", but so far as appears in the Opinion this means no more than that sandpaper is used, a point not in dispute. That the Court of Appeals accepted the fact that there was no significant difference in the results achieved is indicated by the following sentences in its Opinion (Appendix p. 53).

> "There is no doubt at all that U. S. Plywood commenced its investigation of the microseal process with a view toward finding a way *to match its results* or, as a reluctant alternative, negotiation of a licensing agreement. * * *"
>
> "Acting on 3M advice, it found that it could employ a fine sanding operation * * * to achieve on wood in the white plywood panels *results at least quite similar to those produced by the microsealing.*" (Italics added.)

The parenthetical clause which is omitted from the last quotation reads to the effect that the fine sanding operation "was already being used for finish polishing". This evidently refers to evidence that top laquer or varnish coats had been polished by the use of 10/0 sandpaper. The Court of Appeals later indicated that because of such prior use: "If Alexander's patent should be broadly enough construed so as to apply to this operation, then it would be hard to ascribe to it the novelty, as opposed to prior art, which is required for invention" (Appendix p. 58). The implication that the Alexander patent, if construed to cover the accused Micro-Fine operations, would not distinguish over the prior use of 10/0 grit sandpaper to smooth lacquer or varnish coats is clearly erroneous as wholly unsupported

by evidence and contrary to unchallenged evidence in the record.[11]

In the first place, there is no evidence that 10/0, 9/0 or 8/0 sandpaper belts had ever been used commercially in a wide belt machine for treating either top coats or white wood prior to Alexander's invention of the microseal process.[12]

While these fine grits had been used to smooth top coats of lacquer, that operation was performed with small sheets of sandpaper by hand or hand-held vibrating sanders at very light pressure (R 1799a; 96a-7a; DX 2055, R 3441a-2a, 2178a; DX 2056, R 3454a and 3456a, 1447a). Moreover, such top coats are solid and non-porous, so they could not be densified even if softened by heat (R 1691a); and it would not be possible to sand them if they were so softened because they would then become sticky (R 737a-8a). For that reason, the operation is usually performed while the surface is wet with water or kerosene to keep the coating cool (R 737a-8a; 96a-7a; PX 1055, Tab 24, R 3107a). There is no conflict in the evidence as to the nature of this prior art top coat polishing operation. Accordingly, the prior "finish polishing" is entirely different from the accused processes, not only from the standpoint of the manipulative steps involved, but also the material operated upon, the function performed and the results achieved. This is supported by Mr. Oeffinger, Director of Research and Development at the United States Plywood plant at Orangeburg (R 949a), who testified that he could make no comparison between the two operations because they "are so entirely different" (R 961a).

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[11] This ground was not urged by United States Plywood Corporation on appeal below or mentioned by the District Court.

[12] The Court of Appeals may have based its comment on an erroneous assumption to the contrary.

REASONS FOR GRANTING THE WRIT

1. The decision of the Court below is in clear conflict with the principle of law, repeatedly enunciated by this Court, that infringement of a process patent is not avoided by using apparatus other than that disclosed in the patent so long as the nature of the process and its results remain the same. *Smith v. Snow,* 294 U.S. 1, (1935); *New Process Fermentation Company v. Maus,* 122 U.S. 413, (1887); *Tilghman v. Proctor,* 102 U.S. 707 (1881); *Cochrane v. Deener,* 94 U.S. 780 (1877); *Mowry v. Whitney,* 14 Wall 620 (1872). This principle has been consistently followed by Courts of Appeal in other circuits.[13]

2. The question presented is of major importance in the administration of the Patent Laws because it is very likely to be faced with respect to every valid process patent. It is therefore, a question of general public interest and importance. Also involved is the need to reaffirm that a patent on a substantial advance shall be given a scope that will preserve to it a value commensurate with that of the inventor's contribution to the art, without which the Patent Laws will fail to provide the Constitutional incentive—"to promote the Progress of Science and Useful Arts." (Article I, Section 8, Clause 8.)

3. The decision below is clearly erroneous. Not only did the Court below do violence to the above stated rule of

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[13] *Buffalo Forge Co. v. City of Buffalo,* 255 F 83 (CA 2 1918); *Moore Filter Co. v. Tonopah-Belmont Development Co.,* 201 F 532, 541 (CA 3 1912); *Lever Brothers Co. v. Proctor & Gamble Mfg. Co.,* 139 F 2d 633, 643 (CA 4 1943); *Binks v. Ransburg,* 281 F 2d 252, 258 (CA 7 1960), cert. granted 364 US 926; writ dismissed 366 US 211; *Sbicca-Del Mac. Inc. v. Milius Shoe Co.,* 145 F 2d 389, 397 (CA 8 1944); *Petroleum Rectifying Co. v. Reward Oil Co.,* 260 F 177, 182, (CA 9 1919); *Finch Corp. v. Stelos Co., Inc.,* 46 F 2d 606, 608 (CA DC 1931).

Smith v. Snow, supra, but in doing so it also violated three other general principles of patent law established by this Court, as follows:

First, the Courts below ignored the rule that it is the claims which are the measure of the invention, not the specific embodiment which was chosen for disclosure in the patent to meet the requirements of Title 35 U.S.C., Sec. 112, *supra.*[14]

Second, the Court below violated the rule that the language of a patent claim should be construed in conformity with the disclosure of the patent.[15]

Third, the courts below failed to follow the rule that a patent on an invention which advances the art substantially should be liberally construed "to secure to the inventor the reward he deserves."[16]

ARGUMENT

George Alexander's invention of the microseal process has been held to be an important advance in the ancient art of woodworking; and the validity of his patent on the process has been sustained by both Courts below. Accordingly, that patent is worthy of this Court's attention, and is entitled to a liberal construction.[16]

Reversal of the rulings of the lower Courts on the question of infringement is required to avoid subversion of the

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[14] *Smith v. Snow, supra,* and *Graver Tank Co. v. Linde Air Products Co.,* 339 US 605 (1950) rehearing denied 340 US 945.

[15] *Schreiber-Schroth Co. v. Cleveland Trust Co.,* 311 US 211 (1940).

[16] *Eibel Process Company v. Minnesota & Ontario Paper Company,* 261 U.S. 45 (1923) at page 63 and *Smith v. Snow,* 294 U.S. 1 (1935), at page 14.

Constitutional objective of our patent laws and contravention of repeated rulings of this Court. While this Court has made clear in a number of decisions[17] that the Constitutional objective, "to promote the Progress of Science and useful Arts," is thwarted by the grant of patents on obvious improvements in the arts, it is equally true that the incentive to invent and to invest in the development and promotion of inventions, which is the heart of the system contemplated by the Constitution, is destroyed if patents on worthy inventions are so construed as to permit easy evasion. As will be seen, the Courts below by violating long established principles of patent construction have rendered valueless what the same Courts hold to be a valid patent on an important contribution to the art. It is imperative for inventors to be reassured that their deserved rewards will not be denied them by failure of courts to follow the rules of law under which the patent system has grown to be a recognized public benefit.[18]

The "Question Presented" has been answered in the negative by this Court repeatedly over the last ninety-five years.[19] The principle laid down in those decisions which was clearly violated by the Courts below, was stated in *Smith v. Snow*, 294 U.S. 1 (1935), as follows:

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[17] Culminating in *Graham et al v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966).

[18] See the "Introduction" to the "Report of the President's Commission on the Patent System" of Nov. 17, 1966. United States Government Printing Office 1966 O-238-465, pages 2 and 3.

[19] *Smith v. Snow*, 294 U.S. 1 (1935); *New Process Fermentation Co. v. Maus*, 122 U.S. 413 (1887); *Tilghman v. Proctor*, 102 U.S. 707 (1881); *Cochrane v. Deener*, 94 U.S. 780 (1877); *Mowry v. Whitney*, 14 Wall 620 (1872).

> "Respondents do not avoid infringement of the method by varying the details of the apparatus by which they make use of it. *Cochrane v. Deener*, 94 U.S. 780, 788; *Tilghman v. Proctor*, 102 U.S. 707 730, 731."

Conversely, one does not infringe a process patent, merely by using the same apparatus as that disclosed by the patentee if the mode of operation is different. *Universal Oil Products Co. v. Globe Oil & Refining Co.*, 322 U.S. 471 (1944).

The principle follows from a related and fundamental rule as to the nature and basis for patentability of a process or method, which was clearly stated by this Court in *Cochrane v. Deener, supra*, as follows:

> "A process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing. If new and useful, it is just as patentable as is a piece of machinery. In the language of the patent law, it is an art. The machinery pointed out as suitable to perform the process may or may not be new or patentable; whilst the process itself may be altogether new, and produce an entirely new result. The process requires that certain things should be done with certain substances, and in a certain order; but the tools to be used in doing this may be of secondary consequence."

This rule, that a method may be patentable even though no new instrumentalities are employed, was codified in the Patent Act of 1952 which provides for the patenting of a process (35 U.S.C. 101) and defines the word "process" as follows (35 U.S.C. 100b);

> "The term 'process' means process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material."

Adherence to the rule of this Court, that infringement of a process patent does not turn on the nature of the apparatus used, is essential if process patents are to have any value. Since any process may be performed by more than one type of apparatus and a process patent does not cover the apparatus used, such a patent is utterly worthless if it can be avoided by adopting apparatus differing from that disclosed in the patent. This is exactly the result of the decision below. The right to exclude others from the use of the microseal process if limited to instances in which the cork belt is employed means nothing if the identical process can be practiced with other readily available belts. The incentive contemplated by the Constitution can be preserved only by giving process patents a scope commensurate with the value of the inventor's contribution to the art.

Since process inventions are capable of commercial use in secret, any dilution of the incentive to seek patent protection on processes in lieu of use in secrecy will tend to destroy the objective of our patent system, which is to encourage inventors to disclose their inventions to the public.

The Court of Appeals correctly applied the foregoing principles in holding that the patent was valid because the previously known wide belt machine and the previously known cork belt had not been used together on white wood or in the manner specified in the claims of the patent to produce the results of the microseal process. But, it violated those principles in refusing to permit recovery against one who practiced the same process with the 10/0, 9/0 and 8/0 belts. The prior existence and use of separate sheets of these very fine grit sandpapers on lacquer top coats should have no limiting effect upon the patent since they too had not been used as wide belts on white wood, or in the manner specified in the claims to produce results like

those of the microseal process. Moreover, when used in the manner specified in the patent they are not "just sanding", but performing a function and achieving a result never before performed or achieved by sandpaper.[20]

The Patent Statutes make clear that the authorized grant of a right to exclude others is not limited to the specific embodiment of the invention disclosed. Thus, the requirement of 35 U.S.C. 112 that the application for patent "shall set forth the best mode contemplated by the inventor for carrying out his invention", makes it clear that an "invention" may be carried out in more than one "mode", and that only one need be disclosed. That language, and the requirement of the same Section that "the specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention", makes clear that the "invention" is a concept independent of the disclosed "mode". The Statute, moreover, does not limit the monopoly to the "best mode contemplated by the inventor", but grants the patentee "the right to exclude others from making, using or selling the *invention* throughout the United States" (35 U.S.C. 154—italics added). This clearly extends the scope of a patent to all modes for carrying out the "invention", whether disclosed or not, so long as they fall within the scope of the claim. This is in accord with

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[20] The Court of Appeals quoted a statement in the District Court's Opinion attributing to Counsel for General Plywood the concession that if United States Plywood was "sanding" in its accused operations it was not infringing. That actual statement of Counsel was that there was no infringement if United States Plywood was "just sanding" and in the context in which that statement was made it is clear that if United States Plywood is achieving the results of the microseal process it is not "just sanding" (R 31a-33a and 55a).

the following words of this Court in *Graver Tank Co. v. Linde Air Products Co.*, 339 U.S. 605 (1950) rehearing denied 340 U.S. 945:

> "In determining whether an accused device or composition infringes a valid patent, resort must be had in the first instance to the words of the claim. If accused matter falls clearly within the claim, infringement is made out and that is the end of it."

The Courts below violated the above rule to the extent that they based their decisions on the holding that United States Plywood had not used the cloth or cork belts mentioned in the patent since none of the patent claims specify any such belt. The same error was made with respect to the expression "non-metallic" which is not found in the claims.

It is significant in this context that the Patent Act of 1952 not only does not require that patent claims be limited to the disclosed embodiment of the invention, but provides that an element of a claim (on a process) "may be expressed as a * * * step for performing a specified function * * * and such claim shall be construed to cover the * * * acts described in the specification and equivalents thereof" (last par. of 35 U.S.C. 112 *supra*). This is a codification of the "doctrine of equivalents" which has evolved in decisions of this Court to protect patentees against erosion of their just reward by a literal interpretation of the patent. The need for such a doctrine was well stated by this Court in the *Graver Tank* case, *supra*, as follows:

> "But Courts have also recognized that to permit imitation of a patented invention which does not copy every literal detail would be to convert the protection of the patent grant into a hollow and useless thing. * * * Outright and forthright duplica-

> tion is a dull and very rare type of infringement. To prohibit no other would place the inventor at the mercy of verbalism and would be subordinating substance to form. It would deprive him of the benefit of his invention and would foster concealment rather than disclosure of inventions, which is one of the primary purposes of the patent system.
>
> "The doctrine of equivalents evolved in response to this experience. The essence of the doctrine is that one may not practice a fraud on a patent. • • • 'To temper unsparing logic and prevent an infringer from stealing the benefit of the invention' a patentee may invoke this doctrine to proceed against the producer of a device 'if it performs substantially the same function in substantially the same way to obtain the same result'. *Sanitary Refrigerator Co. v. Winters,* 280 US 30, 42, 74 L ed 147, 156, 50 S Ct 9."

The dissenting opinions of Justices Black and Douglas in the *Graver Tank* case rest upon an express limitation to the use of a specific chemical composition which was found in the claims of the patent there involved but was admittedly not found in the accused product. No comparable claim limitation exists in the present case.

The courts below in holding that the belts used in the accused processes remove "significant amounts of stock" and therefore cannot be considered "relatively nonabrasive" violated the rule that language in a patent claim be construed in conformity with the specifictaion.[21] That these belts remove some wood is not disputed, but whether or not the amount can be considered "significant" is irrelevant in view of the undisputed evidence that the 10/0 belt used by United States Plywood is no more abrasive than the cork

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[21] *Schriber-Schroth Co. v. Cleveland Trust Co., supra.*

belt of the patent. Thus, both are "relatively nonabrasive" to the same degree. It was improper to construe the expression "relatively nonabrasive" to require something less abrasive than the cork belt.

It is manifest from the entire record of this case that the use by United States Plywood of the very fine grit belts was simply a subterfuge. Even if the *unused* belts were something short of "relatively nonabrasive", they were obviously selected and designed to become essentially nonabrasive almost as soon as they were put into use, and their whole function—not for a brief time after they became worn out, but for the complete, long time of their actual employment in processing wood surfaces for commercial sale—was exactly the same as the belts recommended in the patent. One cannot avoid infringement by the trick or device of using, for the process, an apparatus element which he calls by another name, but which is converted, in the start up of the process, to exactly the same thing the patent claims specifies. It should be noted that United States Plywood reruns defective panels thereby correcting any deficiencies in those run at the start of a new belt (R 946a-7a, 288a-91a; 303a-4a).

This is not a case in which the judgments of the courts below are based on concurring findings of fact based on conflicting evidence. Neither court below found any difference in kind or degree between the functions or results of the patented process and those of the accused processes as practiced by United States Plywood. The decisions below are based wholly upon the differences in the belts used; and in finding that the patent claims precluded use of fine grit belts the courts below disregarded controlling admissions, unchallenged evidence and well established principles of law laid down by this Court.

The question presented is of fundamental importance to the administration of the patent laws; and preservation of vitality in the Constitutional incentive requires this Court's reassurance that patents on substantial advances in the useful arts shall be liberally construed to insure that inventors receive rewards commensurate with their contributions to the public welfare. *Eibel Process Company v. Minnesota & Ontario Paper Company*, 261 US 45 (1923).

CONCLUSION

For the reasons stated above this Petition should be granted and the decision of the Court of Appeals in this case on the question of infringement reviewed by this Court.

Respectfully submitted,

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APPENDIX

OPINION OF THE UNITED STATES DISTRICT COURT

W.D. Kentucky at Louisville

(Dated March 10, 1964)

This suit was filed January 12, 1960 by the plaintiff, United States Plywood Corporation, a corporation created under the laws of the State of New York and hereinafter referred to as USP, against the defendant, General Plywood Corporation, a Kentucky corporation hereinafter referred to as GPC. The suit seeks a declaratory judgment as to the validity of United States Letters Patent No. 2,827,935 issued to George E. Alexander on March 25, 1958 and now owned by defendant GPC under an assignment from the patentee.

The application for the patent in suit was filed on October 10, 1956 and was given Serial No. 615,127. GPC urges that, in effect, the application on which the patent was granted was a continuation in part of a copending earlier application, Serial No. 566,690 filed February 20, 1956.

GPC filed a traverse of the complaint assailing the validity of the Alexander patent and filed two counterclaims. The first counterclaim alleged that USP had infringed the patent and seeks a recovery of damages and an injunction against further infringement. The second counterclaim seeks damages for the use of a wood finishing process by USP, which it obtained in confidence and used in violation thereof, and an injunction against further use of the process.

In amendments to the complaint and to its answer to the counterclaim, USP has charged fraud and misuse of the patent as an additional defense to the charge of patent infringement. USP's principal assault upon the patent in suit is that the process of the patent was discovered

and used more than one year prior to patentee's application; that the patent discloses no patentable invention over prior art, and that the patentee Alexander was not the first and original inventor of the process described in the patent. It is also alleged that GPC is estopped from asserting an infringement of its patent by the doctrine of "File Wrapper Estoppel."

The case was tried to the Court beginning December 7, 1962 and concluded February 20, 1963. Oral argument of counsel was heard over a period of five days in June and the case was briefed extensively until the latter part of September, 1963. Counsel for both parties have gone to great pains, trouble, and expense to assist the Court.

In considering the voluminous record in this case the Court is reminded of Judge Wyzanski's statement in his memorandum in *Nyyssonen v. Bendix Corp.*, 137 U.S.P.Q. 853: "This case presents great difficulties to a judge who, like myself, has only the most elementary training in science and mathematics, and has little experience with modern technological developments." It has been necessary to condense a large mass of facts in order to determine the principal questions of validity of the Alexander patent and whether that patent, if valid, has been infringed by USP. The proposed findings of fact and conclusions of law tendered by counsel for the parties, consisting of 187 pages for plaintiff USP and 213 pages for defendant GPC, will be considered as having been offered and rejected by the Court, except where adopted by the Court or where in accord with the Court's findings and conclusions.

FINDINGS OF FACT

1. The patent in suit employs the "microseal" process of finishing wood in the white, that is, without the aid of fillers or top coats. The process is for treating a flat wood surface in a straight-through production line operation whereby the treated surface acquires certain desirable properties such as increased hardness, smoothness, and reflectivity and reduced porosity and absorbency. In the

broadest sense, the process produces the desired effect by a momentary application of frictionally induced heat coupled with sufficient pressure to compress, pressure smooth, and densify the surface wood without scorching.

According to the patent in suit, the essential frictional heat is generated by non-abrasively buffing the wood surface with a buffing medium having a flexible, yielding, relatively non-abrasive, frictional, heat insulating rubbing surface. The requisite pressure is developed by compressing the buffing medium between a backing member and the wood surface so as to press the buffing medium into a firm and intimate contact with the wood surface. Finally, the buffing speed, pressure, and time of contact are correlatively controlled to produce momentarily a combination of heat and pressure at the point of contact to soften a thin layer of the wood surface while simultaneously compressing that layer.

The apparatus illustrated and described in the patent is a machine similar to a wide belt sander but uses a belt which operates as an "unabrasive" or relatively "non-abrasive" rubbing medium. The belt speed and pressure, as well as the rate of travel of the wood through the point of contact, generates the heat, and the temperature at the surface of the wood approaches but does not attain scorching temperature. The total time of rubbing contact on each point of the wood surface at a feed speed of 90 feet per minute is 1/25th of a second for a ¾ inch band of contact. By limiting the treatment time to a fraction of a second, the process heats and compresses a very thin layer of the wood surface without affecting the underlying wood structure and without scorching the treated surface area. Since the heated layer is very thin, the heat dissipates quickly after contact with the buffing medium thereby permitting the treated surface of the wood to harden and stabilize in its compressed state.

The process was named "microseal" by GPC and microsealed products have been sold by GPC under the trademark "Satin Surface" or "SS." It was recognized that

the microseal process increased the gloss of the wood, decreased and made uniform the porosity of the wood, and embedded in the wood the hairs or fibers called "nibs" which existed where abrasives were employed in sanding operations.

Much of the controversy in this case has developed over the sharp issue as to whether there is any densification of the surface of the wood as claimed in the patent in suit. The process claims that the wood contains a material known as lignin, a natural resinous cementing material which when softened by heat causes the heated structure to be easily compressed; and, since the treatment time of heat and pressure is very short, the frictionally generated heat is confined to a very thin surface that is easily compressed by rubbing pressure. The layer of densification is small because wood is a poor conductor of heat.

The patent is specific that the belt to be used in the process should be flexible, yielding, and relatively non-abrasive, such as canvas or other cloth made of natural or synthetic fibers, providing a flexible, frictional, relatively non-abrasive buffing or rubbing surface composed of non-metallic material. In recommending temperatures, pressures, work feed rate, and other factors to be correlated so as to produce the desired densification without scorching the wood, the patent says: "It is extremely difficult to determine the precise temperatures and pressures which obtain in the practice of this invention with the apparatus in the drawing."

2. George E. Alexander, inventor of the microseal process, is a mechanical engineer and was employed by GPC in 1947. After serving in various capacities at GPC plants in other states, he was transferred to Louisville in March, 1954 as production manager and later became vice president in charge of production. At that time, GPC was primarily interested in producing and marketing plywood doors and door skins then in great demand by the building trade. A door skin is the thin outer coat of a door applied to the unfinished solid center or core commercially called a "hollow core."

When Alexander was placed in charge of all production by GPC's president, Henry A. Reed, Jr., he was given the special assignments of developing a method to sand doors on a continuous production line basis and to improve the finish of the doors. Through experiments in sanding and buffing operations conducted in 1954, Alexander conceived the idea which resulted in the process later named "microseal" by GPC. During his studies and experiments, he confided his ideas only to Mr. Reed; Francis A. Bade, Jr., then chief engineer, and Lloyd E. Dimond, a chemist and glue expert, at GPC.

In 1955, Alexander contacted Oliver Judd, who as a representative of Minnesota Mining and Manufacturing Company (hereinafter referred to as 3M) was a frequent caller at the GPC plant because of the latter's purchase of 3M's abrasives. His first inquiries to Judd concerned the method of developing the smoothness and finish or burnish of hammer handles. From Judd, Alexander learned that cork belts were obtainable for wide belt sander machines. In its efforts to obtain a wide belt sander that could be used to sand and finish its doors in accordance with Alexander's ideas, GPC conducted experiments at Mattison Machine Company's plant in Wisconsin in September, 1954 with unsatifactory results. In December, 1954, GPC permitted Timesavers, Inc., to give a public demonstration of its wide belt machine, which was also unsuccessful because the contact roll, like that on the Mattison machine, was too hard and the machine was not wide enough for GPC's doors. The president of Timesavers, Inc., agreed to make a 38-inch wide belt sanding machine with a soft contact roll. A wide belt machine with a soft contact roll was completed by Wicklander Machine Co., for Timesavers, Inc., about April 1, 1955, in compliance with GPC's order placed with Timesavers.

On April 7, 1955, Alexander flew to Chicago and witnessed the operation of the machine at Wicklander's plant in the successful sanding of two hundred doors furnished by GPC for the test. He approved the machine for delivery to GPC and verbally ordered additional machines.

Judd traveled with Alexander on his trip to and from Chicago but did not remain with him during the entire course of the experiment. On the return flight to Louisville they occupied adjoining seats and Alexander explained his ideas and described his buffing experiments to Judd. According to Alexander, he asked Judd to obtain a 38-inch wide cork belt for use on the machine purchased by GPC and Judd agreed to obtain the belt but later advised there would be a delay because cork belt material came in 24-inch widths and it would take some time to get a special order for a 38-inch wide belt.

The wide belt sander was delivered to GPC on May 11, 1955, but delivery of the cork belt to be used on the machine was not obtained until July 7, 1955. In the meantime, the officers of GPC became anxious to observe the results obtained by polishing plywood with a cork belt and Judd offered to conduct a trial on a smaller Timesavers machine at the Reynolds Metals Company plant in Louisville. Alexander accepted Judd's offer in reliance upon the fact that, since GPC was a customer of Judd and his employer, Judd was required to keep in confidence the information disclosed to him by Alexander and obtained in the experiment. Judd made the experiment May 18, 1955, with material furnished him by Alexander and obtained the results which were developed into GPC's microseal process. An application for patent was filed by Alexander on February 20, 1956.

Without disclosing his intention to do so, Judd filed an application for patent in March, 1956. October 9, 1956, Judd's application was granted and United States Letters Patent No. 2,765,598 issued to Judd's employer and assignee, 3M. Then a dispute arose between GPC and 3M as to who was the inventor of the microseal process. By agreement, Alexander and Judd were examined separately by deposition early in 1959, which resulted in the execution of a contract and the dedication of the Judd patent to the public with an agreement on the part of 3M not to contest the validity of the Alexander patent applied for October 10, 1956 and issued March 25, 1958.

3. When the Judd patent was granted October 9, 1956, Alexander's application filed February 20, 1956 was denied by the Examiner in the Patent Office, and an appeal was prosecuted to the Board of Patent Appeals. September 30, 1957, the Board reversed the decision of the Examiner and held that none of the references relied upon by the Examiner taught any claimed process or principle of operation which could be suggestive of the process and operation taught in the Alexander application. Alexander's second application had been filed prior to the Board's decision and had been referred to as "in effect, a renewal of the first application." All of the claims in the first application were reinstated by the decision and were added to and made a part of the claims in the second application. Claim No. 19 in the first application became Claim No. 11 in the second application and reads as follows:

> "The method of providing a substantially flat wood surface with a glossy and relatively non-porous finish comprising; non-abrasively buffing the surface with a buffing medium having a flexible yielding relatively nonabrasive frictional heat insulating rubbing surface moving at a predetermined buffing speed, compressing the buffing medium between a backing member and said wood surface to press the buffing medium into firm and intimate contact with said surface; and correlatively controlling the buffing speed, pressure and time to compress, pressure smooth and densify the surface wood without scorching."

4. The Constitution of the United States, Section 8, Clause 8, empowers the Congress to grant exclusive rights to authors and inventors in promotion of the progress of science and the useful arts. The granting of patents on useful new and novel processes has contributed no small part to the store of patents. Where a patent is scrutinized over a long period of time through tests of the Patent Office, there is an added element to the presumption of validity which attaches to all patents under the provisions of Section 282 of Title 35, United States Code, which pro-

vide, in part: "A patent shall be presumed valid. The burden of establishing invalidity of a patent shall rest on a party asserting it."

It is most significant in this case that neither the Patent Office nor the Board of Appeals ever made any reference to the Judd patent, ever mentioned that it would or could constitute an interference to Alexander's application, or ever required or suggested that Alexander amend any claims to avoid the Judd patent. By amendments, Alexander eliminated from his application any statement that his process involved the application of light pressure upon the wood. This has distinguished his process from that described in the Judd patent. In addition, Judd's patent does not describe his process as depending upon the proper coordination of feed speed, frictional heat, and ultimate compression or densification of the treated portion of the wood.

The Court finds that the Alexander patent involves a process distinguishable from the process claimed in Judd's patent and feels that this finding is reinforced by the failure of the Patent Office to mention the Judd patent at any time as a reference in its consideration of the Alexander application.

5. The foregoing determination that the process of the Alexander patent is distinguishable from that of the Judd patent practically disposes of USP's argument that Alexander's patent became invalid by the doctrine of "File Wrapper Estoppel." This doctrine hinges upon USP's contention that Alexander, having failed to contest an interference proceeding with Judd in the Patent Office, must concede the Judd patent as conclusive and is estopped to contend otherwise. Such contention presupposes that the process described in the Judd patent and the Alexander patent are the same.

A reading of Alexander's file wrapper, a review of the testimony heard at the trial, the limited benefit derived by the Court from witnessing demonstrations at the plants of the parties to this litigation, and the scrutiny Alexander's

applications experienced in the Patent Office, have convinced the Court that his process is an entirely different process from that patented to Judd. Judd did not consider the densification or compression of the wood, did not employ the heat or pressure necessary to produce the so-called compression or densification, and did not provide for the proper coordination of the factors employed by Alexander and set out with particularity in his description of the process and in the claims of his patent.

USP concedes that if the applications of Alexander and Judd embodied separate processes there is no file wrapper estoppel. It is upon the contention that the processes are different that USP mainly bottoms its argument that it has not infringed.

To the Court, the Alexander patent clearly contemplates the use of buffing belts that are non-abrasive or relatively non-abrasive and of non-metallic material. In fact, Alexander expresses a preference for the use of "a surface treating belt of the type having a cork surface" in his description of the process in his patent. I think this distinction is much more clearly set forth in the Alexander patent than in the Judd patent.

6. The Court has determined that all of the evidence from which infringement by USP could be inferred involves its use of 8/0, 9/0 and 10/0 abrasives or sandpaper in treating wood surfaces. There is no proof that USP was using cork or non-metallic abrasives in any of the accused operations; hence, there is no foundation upon which an infringement could be based.

Counsel for GPC said in his opening statement and repeated several times during the presentation of the case that if USP was sanding in its accused operations then there was no infringement. Since, to the Court, a reading of Alexander's description of his process and the claims of his patent contemplated the use of belts that are originally designed as unabrasive or relatively non-abrasive, it would be illogical to conclude that his patent could be in-

fringed by a belt designed and manufactured as an abrasive instrument but which became relatively non-abrasive because it was worn by use. This was referred to on several occasions during the progress of the trial and none of the witnesses for GPC were ever able to give the Court a satisfactory formula by which it could be told when an 8/0, 9/0, or 10/0 belt ceased to be abrasive and became an infringer of the process in the Alexander patent.

The Court also concludes that there was no reliable testimony that GPC has unlawfully, fraudulently, or improperly used its patent or granted licenses thereunder which would furnish any foundation for the admeasurement of damages. Nor is there sufficient evidence to support GPC's counterclaim that USP is guilty of a breach of trust.

CONCLUSIONS OF LAW

It is GPC's contention that the process described in its patent is a valid patentable process as defined by the United States Supreme Court in the case of Cochrane v. Deener, 94 U.S. 780:

> "A process is a mode of treatment of certain materials to produce a given result. It is an act or a series of acts, performed upon the subject-matter, to be transformed and reduced to a different state or thing. If new and useful, it is just as patentable as is a piece of machinery. In the language of the patent law, it is an art.
>
> "The machinery pointed out as suitable to perform the process may or may not be new or patentable; whilst the process itself may be altogether new, and produce an entirely different effect."

The Supreme Court has not given a precise and comprehensive definition of a test by which the legal question of validity of a patent may be determined. The Supreme Court has said, "The standard of patentability is a con-

stitutional standard; and the question of validity of a patent is a question of law." *A. & P. Tea Co. v. Supermarket Corp.*, 340 U.S. 147, 155.

Neither Alexander nor the Patent Office charged or conceded that Alexander's application embodied the same process as that in the Judd patent. The fact that experimentation or the exercise of judgment is necessary to adapt a patented process to a particular material or to obtain the particular results desired does not impair the validity of the patent. *Lever Bros. Co. v. Procter & Gamble Mfg. Co.*, 4 Cir., 139 F. 2d 633 (1943); *Binks Mfg. Co. v. Ransburg Electro-Coating Corp.*, 7 Cir., 281 F. 2d 252 (1960).

The law places the burden of establishing invalidity of a patent upon the person asserting it. Section 282 of Title 35, United States Code. In this case the long period of time employed by the Patent Office in considering the Alexander applications, and the obstacles and opposition which the applications encountered in the Patent Office add to the presumption of the validity of the patent *Modern Products Supply Co. v. Orachenberg*, 6 Cir., 152 F. 2d 203 (1945).

USP contends that the Alexander patent became invalid under the doctrine of "File Wrapper Estoppel." Its argument in support of this contention merely asserts the principle that if an applicant intends his claims to cover the subject matter of a previously issued patent he is under a duty to copy the claims of the prior patent and contest the priority of invention in interference proceedings. *McIlvaine Patent Corp. v. Walgreen Co.*, DC Ill., 44 F. Supp. 530 (1942). Although GPC cannot litigate the issue of priority in this Court, it can and does claim that Alexander's patent describes a process which is not disclosed in the Judd patent, and the Court has determined that the processes of the two patents are not the same.

CONCLUSION

The Court concludes in this case (1) that the Alexander patent is valid and GPC is not estopped in the enjoyment of any benefit which a valid patent gives to its owner, and (2) that the proof is inadequate to establish infringement upon the patented process by the plaintiff USR.

A judgment to this effect will be entered and counsel may present judgment in accordance with the findings and conclusions herein made.

March 10, 1964.

Roy M. Shelbourne
United States District Judge

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JUDGMENT OF THE UNITED STATES DISTRICT COURT

W.D. Kentucky at Louisville

(Entered June 15, 1964)

This action having been tried, briefed, and orally argued, and the Court having filed a memorandum opinion on March 10, 1964, which opinion constitutes the Court's findings of fact and conclusions of law, and the plaintiff and defendant each having tendered to the Court a form of judgment, and the Court, having considered each of said proposed judgments, now rejects same, and

IT IS ORDERED, ADJUDGED AND DECREED:

(1) Alexander Patent No. 2,827,935 issued March 25, 1958, is owned by the defendant, General Plywood Corporation;

(2) Said Alexander patent, as construed by this Court, is valid;

(3) Said Alexander patent has not been infringed by the plaintiff, United States Plywood Corporation;

(4) To the extent that the complaint seeks a declaratory judgment that said Alexander patent is invalid or has been misused, the complaint is dismissed;

(5) Defendant's counterclaim for infringement of said Alexander patent and breach of trust is dismissed, and

(6) The Court, in the exercise of its discretion, orders that each party shall pay its own taxable costs incurred in this action.

June 15, 1964.

Roy M. Shelbourne
United States District Judge

A Copy: Attest

Martin R. Glenn, Clerk
By Loraine Miller
Deputy Clerk

OPINION OF THE UNITED STATES COURT OF APPEALS FOR THE SIXTH CIRCUIT

Nos. 16194-95

UNITED STATES COURT OF APPEALS
For the Sixth Circuit

United States Plywood Corporation,
Plaintiff-Appellee,
v.
General Plywood Corporation,
Defendant-Appellant.

United States Plywood Corporation,
Plaintiff-Cross-Appellant,
v.
General Plywood Corporation,
Defendant-Cross-Appellee.

Appeals from the United States District Court for the Western District of Kentucky.

Decided December 28, 1966.
(as amended by Order of February 8, 1967, p. 68)

Before: PHILLIPS, EDWARDS and CELEBREZZE, Circuit Judges.

EDWARDS, Circuit Judge. These appeals represent the culmination of a bitter controversy between a giant member of the plywood industry and a somewhat smaller competitor.

United States Plywood is the biggest of American plywood manufacturers. General Plywood is a substantial manufacturer of plywood doors based in Louisville, Kentucky. At the relevant times in this record the whole industry was adversely affected by the entrance into the United States market of Japanese plywood imports. And at the time also more and more plywood panels were being

sold in factory finished form for interior use in housing and office building.

The industry prepared such panels for factory finishing (or for sale to the construction industry unfinished) by running the panels through a series of machine sanders (usually three). The first such machine employed a rough sandpaper of 1/0 grit; the next two were progressively finer. It appears that the finest in general use by the industry at this stage, prior to the event we deal with, was 4/0 grit.

This sanding produced plywood panels ready for finishing and termed in the industry "wood in the white." The surface while relatively smooth was porous, somewhat fibrous, absorptive and without gloss or sheen.

Subsequently, to change all these surface characteristics, finishing required filler, stain, lacquer and polishing. Each of these processes when done at the factory required one or more machine passes with consequent production costs.

In 1954, George E. Alexander, Production Manager of General Plywood, conceived the idea of "buffing," "polishing," or "burnishing" the "wood in the white" panel at this stage before the finishing process. He first tried a cloth buffing wheel which produced some of the effect he was seeking, but with irregularities, including scorch marks, which made the result unsatisfactory. Pursuing the effort, Alexander experimented with a patented "Timesaver" machine, which was capable of production processing of plywood sheets. This machine had adjustable feed and roll speeds and roll pressures. Ultimately Alexander ordered a specially constructed Timesaver with a 38-inch roll. The only individual feature added to this machine (other than width) was a special "soft contact roll."

Alexander discussed his proposed process with one Oliver S. Judd, of Minnesota Mining & Manufacturing Company (a leading abrasive manufacturer) and inquired as to what was "used to polish hammer handles." Judd answered, "cork belts," and Alexander thereupon ordered a specially

fabricated 38-inch wide cork belt for the Timesaver machine. Both the Timesaver machine and the 3M cork belt were the subject of pre-existing patents. But it does not appear that the two had previously been employed in combination to "buff," "polish," or "burnish" wood in the white plywood panels. When feed speed and roll speed and pressure were adjusted so that panels were fed through the machine at approximately 90 feet per minute, with a one inch (or less) band of contact where surface heat of upward of 400 degrees was generated, the effect which Alexander was looking for was produced. The surface was smoother, glossier, less absorptive, and (as Alexander termed it) "densified." Alexander called the new process "microsealing."

In these stages Alexander worked closely with Judd of 3M and with Pendergast of Timesavers. When Alexander became convinced that he had a commercially valuable process (he terms it "revolutionary"), he (and General Plywood) set out to patent it. At that point General Plywood discovered that Judd, on behalf of 3M, had also applied for a patent without notice to Alexander or General Plywood.

Judd's patent application was dated March 27, 1956, and on October 9, 1956, the patent was granted to him. Alexander's patent application was dated October 10, 1956,[1] and the examiner denied the patent.

Subsequently, the Board of Patent Appeals reversed the examiner and granted the Alexander patent, after finding it not anticipated by prior-art (apparently including the Judd patent). Litigation between General Plywood, assignee of Alexander's patent, and 3M, assignee of the Judd patent, resulted in dedication to the public of the Judd patent and an agreement by 3M not to contest validity of the Alexander patent.

The Alexander patent is best described briefly, we think, by quoting Claim 11:

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[1] Alexander had previously filed a "first application" in relation to much the same process on February 20, 1956. This application ultimately was abandoned.

"The method of providing a substantially flat wood surface with a glossy and relatively non-porous finish comprising; non-abrasively buffing the surface with a buffing medium having a flexible yielding relatively non-abrasive frictional heat insulating rubbing surface moving at a predetermined buffing speed, compressing the buffing medium between a backing member and said wood surface to press the buffing medium into firm and intimate contact with said surface; and correlatively controlling the buffing speed, pressure and time to compress, pressure smooth and densify the surface wood without scorching."

For further consideration, particularly of the problems of validity and infringement, other paragraphs elaborating the process described in the Alexander patent application are relevant:

"The principal object of this invention is to provide a novel wood surface treating process which can be simply and inexpensively carried out and which results in the substantial improvement of that surface in one or more respects such as increased hardness, smoothness and reflectivity and reduced porosity and absorbency.

"Another important object is to provide a wood glossifying process which can be performed at high speed on a straight through production line conveyor.

"Another important object of this invention is to provide a novel and inexpensive frictional method for changing the structure of the wood along the surface without changing the underlying structure and, through such change, to effect a substantial increase in surface smoothness and a substantial decrease in its ability to absorb finishing or other materials.

"Another object of this invention is to provide a new and novel process for producing a wood product having its surface wood structure of relatively greater density and finer texture than the density and texture of the underlying natural wood structure."

• • •

"It should be noted that I preferably employ a surface treating belt of the type having a cork surface, e.g., as exemplified by the belts presently made under U. S. Patent No. 2,542,058, except that the very mild abrasive sometimes employed in such cork belts is unnecessary and may be omitted. Any other flexible, yielding, relatively nonabrasive frictional rubbing medium or frictional belt material, such as canvas, or other cloth made of natural or synthetic fibers, may be employed so long as it is capable of frictionally developing the requisite temperature when the requisite operating conditions are employed, and of withstanding both the operating temperatures and pressures. It will be observed that these belts provide a flexible, frictional, relatively nonabrasive buffing or rubbing and somewhat yielding surface composed of nonmetallic material. Since this material, in comparison with metal, is a relatively poor conductor of heat or a good heat insulator, it may be aptly described as a heat insulating material."

• • •

"The process, however, is essentially a nonabrasive process, as is clear from the fact that even a very light pencil mark made on a piece of wood before treatment is not removed therefrom during the surface treatment."

• • •

"[S]uperior results are achieved by the apparatus illustrated in the drawing wherein the surface of the wood is heated directly by friction and it is a simple matter to obtain relatively uniform pressure between the friction member and all portions of the wood surface and hence uniform heating and densification even though the wood surface is not perfectly flat. In that connection, the use of a rubber or other yielding sleeve on drum 10 helps to distribute the pressure uniformly over the surface even though the surface is not per-

fectly flat and the sheet of wood is relatively rigid. . . ."

"It is extremely difficult to determine the precise temperatures and pressures which obtain in the practice of this invention with the apparatus of the drawing. I am well satisfied that the minimum temperatures employed should fall within the softening-melting range (400° F. 525° F.) of the heat plasticizable content of the wood. I am equally well satisfied that the momentary operating temperatures employed may and preferably do greatly exceed that range so long as the contact time is reduced sufficiently to prevent charring of the surface wood in all instances and scorching in those instances where it is objectionable.

• • •

"Since the desired results are achieved when the temperatures developed are high and only surface wood is heated it is desirable to complete the treatment with the apparatus of the drawing within a time period of no more than 1/5 of a second, and preferably within a period not exceeding 1/18 of a second. The period of treatment is determined by the width of the wood surface contacted under pressure by the friction member and the rate of feed of the work. With a 16-inch rubber covered drum it is estimated that the width of the band of contact is no more than 3/4" when the pressure applied by feed roller 21 is 7½ pounds per lineal inch of roller length.

"The temperature developed during the treatment for any given rate of work feed and width of pressure contact depends on the pressure and the belt speed, increasing as either or both of these factors increase and vice versa. The best results are achieved when the temperature developed closely approaches the scorching temperature for the treatment time employed. . . ."

• • •

"It will be apparent from the above that the essential requirements of the invention as practiced by a friction member are that the desired degree of permanent compression be obtained in a short time and that the pressures, the speed of the friction member and the rate of work feed may be varied widely, if properly correlated to meet those requirements. However, as a guide in determining any desired proper combination of pressures, speeds and feeds in accordance with the above principles, it may be stated that excellent results on birch plywood have been obtained with the apparatus of the drawing under the following conditions:

"Diameter of drum 10 — —	16".
Work feed — — — — —	90 ft. per minute.
Belt speed — — — — —	4000 ft. per minute.
Force exerted by roller 15 —	7½# per lineal inch.

"Under the above conditions the contact time is 1/18 of a second or less for a contact band of one inch or less and the temperature closely approaches the scorching temperature which is believed to be in the neighborhood of 620° F for that treatment time. This is indicated by the fact that under the conditions stated a very slight indication of scorching is noted at rare intervals. This can be avoided, if desired, and excellent results achieved by increasing the feed rate to 125 feet per minute." United States Patent No. 2,827,935.

Prior to the issuance of Alexander's patent, General Plywood announced its new process and put the products on the market. It also began actively seeking to interest licensees in its process and succeeded in doing so. As a result, through advertising, through stores, in the Wall Street Journal, and through demonstrations of the process to prospective licensees, General Plywood revealed the process in some or all of its relevant aspects to many potential licensees—and/or competitors. Among these was the giant of the industry, U. S. Plywood.

It is clear that from the beginning U. S. Plywood regarded General Plywood's "Microsealing" as new and as competitvely important. Its president, S. W. Antoville, ordered U. S. Plywood's Louisville agent to purchase and forward a microsealed door for U. S. Plywood's examination and tests. He also ordered one of their salesmen to visit General Plywood's Louisville plant and learn what he could about the process.

General Plywood's reaction appears to us to have been an eager welcoming of U. S. Plywood's interest. At the first visit of the U. S. Plywood's salesman, General Plywood's president, Henry M. Reed, told him that he would like to talk to Antoville. Reed wrote Antoville on October 15, 1956 (just after Alexander filed his patent application):

> "Our investigations lead us to believe we will obtain strong patents, otherwise, we would not bother to spend the money to attempt to obtain them.
>
> "To me it is a one way street. We license companies. If we should not obtain a patent, then our licensees are already 'in business' with the process and have all the techniques and 'know how.' They discontinue paying royalties on the process and we are 'out of luck.'"

There is no doubt at all that U. S. Plywood commenced its investigation of the Microseal process with a view toward finding a way to match its results or, as a reluctant alternative, negotiation of a licensing agreement. Unfortunately for General Plywood, U. S. Plywood found a method fairly readily at hand.

Acting on 3M advice, it found that it could employ a fine sanding operation which was already being used in the industry for finish polishing to achieve on wood in the white plywood panels results at least quite similar to those produced by the microsealing. U. S. Plywood thereupon notified General Plywood that it was not interested in taking a microsealing license and proceeded with the fine sanding procedure outlined above, which it named "Micro-Fine."

Subsequently, when its patent had been issued, General Plywood served U. S. Plywood with written notice of infringement. U. S. Plywood responded with a suit attacking the validity of General Plywood's patent and seeking a declaratory judgment of noninfringement and of patent misuse. Thereupon General Plywood, by counterclaim asserted validity of its patent, alleged infringement and breach of trust by U. S. Plywood and claimed damages.

This then brings us to the two major issues of validity and infringement. The District Judge found the patent valid but not infringed.

Alexander's patent was issued upon a process or a method. The machine he employed was built and patented by others. The cork belt he employed was patented by 3M. But in the view of the District Judge (and in ours) there was novelty and utility sufficient to warrant a finding of invention in Alexander's method of applying these two to the treatment of wood in the white. As the District Judge noted, a process or method may be the subject of a patent. Patent Act of 1952, 66 Stat. 197, 35 U.S.C. §101 (1964 ed.);[1] *Cochrane v. Deener*, 94 U.S. 780 (1876).

These novel features of the Alexander process may be noted:

1) The cork belt, though previously used for polishing wood, had never been employed for treating plywood panels in the wood in the white stage.

2) The employment of a resilient roll for a panelwide cork belt on a Timesaver machine achieved a uniformity of treatment not successfully achieved before.

3) The employment of relatively high speeds and pressures correlated to achieve the impact of heat just below

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[1] "§101. *Inventions patentable.* Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." 35 U.S.C. §101 (1964 ed.).

scorching helped to achieve a surface smoothness, density and gloss in one machine operation which made subsequent finishing operations substantially simpler and less expensive.

In *Cochrane v. Deener, supra,* the Supreme Court said:

> "A process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject matter to be transformed and reduced to a different state or thing. If new and useful, it is just as patentable as is a piece of machinery. In the language of the patent law, it is an art. The machinery pointed out as suitable to perform the process may or may not be new or patentable; whilst the process itself may be altogether new, and produce an entirely new result. The process requires that certain things should be done with certain substances, and in a certain order; but the tools to be used in doing this may be of secondary consequence." *Cochrane v. Deener, supra,* at 788.

The Alexander process was both new in the industry and of great commercial value. While prior-art (including the Judd patent) taught something about each of the cited features, no prior-art taught the application of all of these features in the combination indicated at the point in the plywood manufacturing process taught by Alexander's patent.

Nor do we think that Alexander's process was an obvious development to any mechanic skilled in the art. The problems solved had existed for years in the industry and had resisted the efforts of others skilled in the art.

We believe the record supports the District Judge's finding that the Alexander patent is valid. The District Judge in upholding validity relied strongly upon the statutory presumption of validity accorded to a patent, like Alexander's, which was regularly issued by the United

States Patent Office. Patent Act of 1952, 35 U.S.C. §282 (1964 ed.). Without disregarding the force of this presumption, we feel it important to note also that our review indicates to us that Alexander's patent meets the statutory tests of utility, novelty, and non-obviousness (Patent Act of 1952, 35 U.S.C. §§101, 102, 103 (1964 ed.); *United States v. Adams*, 383 U.S. 39 (1966)). We likewise feel that Alexander's patent meets the Constitutional standard of invention (U. S. Const. art. I, §8, cl. 8).[2] That standard has been described as including "Innovation, advancement, and things which add to the sum of useful knowledge. . . ." *Graham v. John Deere Co.*, 383 U.S. 1, 6 (1966).

While, as we will point out, the District Judge ultimately found noninfringement of this patent, we feel he was correct in passing squarely on its validity. The issues raised by cross-filed pleadings are complex. Validity is squarely attacked by the original plaintiff. And the case has involved a lengthy trial of complex facts, most of them bearing directly upon this issue. We believe ample precedent supports his passing on validity in the decree. *Sinclair Co. v. Interchemical Corp.*, 325 U.S. 327 (1945); *Altvater v. Freeman*, 319 U.S. 359 (1943); *Sparton Corp. v. Evans Products Co.*, 293 F.2d 699 (C.A. 6, 1961), *cert. denied*, 368 U.S. 967 (1962). This controversy has no resemblance to a fictitious suit designed to achieve an advisory opinion. Cf. *Cover v. Schwartz*, 133 F.2d 541 (C.A. 2, 1943), *cert. denied*, 319 U.S. 748 (1943).

The District Judge's finding on the infringement question was: "(3) Said Alexander patent has not been infringed by the plaintiff, United States Plywood Corporation; . . ."

His reasoning follows:

"To the Court, the Alexander patent clearly contemplates the use of buffing belts that are non-abra-

[2] The federal patent power stems from a Constitutional provision which authorizes Congress "To promote the progress of . . . useful arts, by securing for limited times to . . . inventors the exclusive right to their . . . discoveries." U. S. Const. art. I, §8, cl. 8.

sive or relatively non-abrasive and of non-metallic material. In fact, Alexander expresses a preference for the use of 'a surface treating belt of the type having a cork surface' in his description of the process in his patent. I think this distinction is much more clearly set forth in the Alexander patent than in the Judd patent.

"The Court has determined that all of the evidence from which infringement by USP could be inferred involves its use of 8/0, 9/0 and 10/0 abrasives or sandpaper in treating wood surfaces. There is no proof that USP was using cork or non-metallic abrasives in any of the accused operations; hence, there is no foundation upon which an infringement could be based.

"Counsel for GPC said in his opening statement and repeated several times during the presentation of the case that if USP was sanding in its accused operations then there was no infringement. Since, to the Court, a reading of Alexander's description of his process and the claims of his patent contemplated the use of belts that are originally designed as unabrasive or relatively non-abrasive, it would be illogical to conclude that his patent could be infringed by a belt designed and manufactured as an abrasive instrument but which became relatively non-abrasive because it was worn by use. This was referred to on several occasions during the progress of the trial and none of the witnesses for GPC were ever able to give the Court a satisfactory formula by which it could be told when an 8/0, 9/0, or 10/0 belt ceased to be abrasive and became an infringer of the process in the Alexander patent."

We affirm this finding also.

General Plywood described its treating belt as "non-abrasive" or "relatively non-abrasive," "non-metallic," "flexible," and "yielding." None of these descriptive terms are appropriate to describe the 10/0 aluminum oxide grit sandpapers which United States Plywood employed.

We do not ignore General Plywood's argument that U. S. Plywood's results were really achieved by either the crushing of the grit on the "modified" belts, or the use of worn belts, or by the rapid filling of the belts with wood particles so as to terminate any substantial abrasive action. We have, however, noted in the record testimony which certainly constitutes substantial evidence that the 10/0 sanding employed by U. S. Plywood did remove significant amounts of stock. Observers testified to visible dust and the necessity of dust collectors on the "Micro-Fine" process where General Plywood contends such were not necessary in microsealing.

Infringement is generally a question of fact for the trial court. On review this court does not reverse a finding of non-infringement unless we can say it is "clearly erroneous." Rule 52(a) Fed. R. Civ. P.; *Toledo Scale Corp. v. Westinghouse Electric Corp.*, 351 F.2d 173 (C.A. 6, 1965); *Maytag v. Murray Corp. of America*, 318 F.2d 79, 82 (C.A. 6, 1963).

We do not think that this record allows us to say that the District Judge's finding of noninfringement was "clearly erroneous." The trial judge heard extensive testimony for 40 trial days. Much of the evidence on infringement was conflicting. We think the view he took of the evidence was at least a "permissible" one and hence not clearly erroneous. *United States v. Yellow Cab Co.*, 338 U.S. 338, 342 (1949).

Over and above what we have already said on the issue of infringement and at least somewhat persuasive to us is the fact that the record appears to demonstrate that what U. S. Plywood did was essentially to move a fine sanding operation which was already being used in the industry for finish polishing to an earlier point in the production process and apply it to wood in the white panels. If Alexander's patent should be broadly enough construed so as to apply to this operation, then it would be hard to ascribe to it the novelty, as opposed to prior-art, which is required for invention.

The District Judge found that General Plywood was not guilty of misuse of its patent. We agree. This record provides no indication that the patent in suit is being employed for leverage to sell either other patents or other unpatented goods and services. *Morton Salt Co. v. G. S. Suppiger Co.*, 314 U.S. 488 (1942); *Rocform Corp. v. Acitelli-Standard Concrete Wall, Inc.*, —— F.2d —— (C.A. 6, 1966). Decided October 11, 1966.

U. S. Plywood alleges that the product "tied-in" was a resin sold by Reichhold Chemical, Inc. But no microseal licensee was required to purchase this resin; nor was any company refused a license under the Alexander patent because of failure to purchase this resin.

The District Judge also found that U. S. Plywood had not been guilty of breach of trust.

The fundamentals required for such an action, as stated in Restatement of the Law, Torts, §757, are:

"§757. *Liability for Disclosure or Use of Another's Trade Secret—General Principle.*

"One who discloses or uses another's trade secret without a privilege to do so, is liable to the other if

"(a) he discovered the secret by improper means, or

"(b) his disclosure or use constitutes a breach of confidence reposed in him by the other in disclosing the secret to him, or

"(c) he learned the secret from a third person with notice of the facts that it was a secret and that the third person discovered it by improper means or that the third person's disclosure of it was otherwise a breach of his duty to the other, or

"(d) he learned the secret with notice of the facts that it was a secret and that its disclosure was made to him by mistake."

What we have already said on the issue of infringement argues strongly for affirmance on this issue likewise. This record supports the District Judge's view that U. S. Plywood did not employ the process which General Plywood disclosed.

Additionally, we note that this record does not support a finding of breach of a confidential disclosure. This record discloses no effort at maintaining secrecy of the process in General Plywood's plant. Its employees were not even warned against disclosure. It is also apparent to us, as it was to the District Judge, that General Plywood actively sought licensing agreements with many firms in the plywood industry, including U. S. Plywood. In this process it necessarily made a variety of disclosures. In doing so it appears to us, as it did to the District Judge, that it neither made any effort at maintaining secrecy of its process nor at securing an agreement for confidentiality. *Hamilton Mfg. Co. v. Tubbs Mfg. Co.*, 216 Fed. 401 (W.D. Mich. 1908).

U. S. Plywood clearly sought to learn all it could about General Plywood's process. But General Plywood's revelations were the eager revelations of a prospective licensor to a prospective licensee. General Plywood asked for no agreement of confidentiality from U. S. Plywood—and received none. Having chosen to rely solely upon its patent rights for protection, and having failed to keep its process secret prior to grant of the patent, General Plywood is not now in a position to sustain an action for breach of trust. *Huszar v. Cincinnati Chemical Works, Inc.*, 172 F.2d 6, C.A. 6, 1949).

At best this can only be described as a close and difficult case. The District Judge did not abuse his discretion in requiring each party to pay its own costs.

Affirmed.

JUDGMENT OF THE UNITED STATES COURT OF APPEALS FOR THE SIXTH CIRCUIT

(No. 16,194)

(Filed December 28, 1966)

Before: PHILLIPS, EDWARDS and CELEBREZZE, Circuit Judges.

Appeal from the United States District Court for the Western District of Kentucky

This Cause came on to be heard on the record from the United States District Court for the Western District of Kentucky and was argued by counsel.

On Consideration Whereof, It is now here ordered and adjudged by this Court that the judgment of the said District Court in this cause be and the same is hereby affirmed.

It is further ordered that each party pay its own costs on appeal.

Entered by order of the Court.

/s/ Carl W. Reuss,
Clerk

PETITION BY DEFENDANT-APPELLANT FOR REHEARING AND FOR REVISION OF OPINION

(Appeal No. 16,194)

Now comes the Appellant, General Plywood Corporation, and petitions the honorable Court for a rehearing of its Appeal No. 16,194 under Rule 22 and to revise the Opinion of the Court on the grounds that the Court's Opinion filed December 28, 1966 contains the following errors:

1. *The Court overlooked the undisputed fact that the Alexander patent, in suit, had an effective filing date of February 20, 1956 by reason of an earlier-filed application on the same subject matter. This filing date is prior to the filing date of the Judd patent. Consequently, the Judd patent is not prior art against the Alexander patent and it was not so treated by the Patent Office. The contrary is twice*

suggested at page 3 of the Court's Opinion, and erroneous parenthetical statements to this effect appear at the tops of pages 8 and 10.

The District Court noted that the Alexander application was filed *before* the Judd application (45a). The Alexander patent specifically mentions the February 20, 1956 application in the first paragraph of the specification.[1] This is more than a month earlier than the Judd filing date of March 27, 1956. The Alexander patent is entitled to the benefit of the February 20, 1956 filing date in accordance with the explicit provisions of the controlling statute, 35 USC 120:

> "An application for patent for an invention disclosed in the manner provided by the first paragraph of section 112 of this title in an application previously filed in the United States by the same inventor shall have the same effect, as to such invention as though filed on the date of the prior application, if filed before the patenting or abandonment of or termination of proceedings on the first application or on an application similarly entitled to the benefit of the filing date of the first application and if it contains or is amended to contain a specific reference to the earlier filed application."

The fact that the Alexander patent is entitled to the benefit of the early filing date and that Alexander filed before Judd had never been contested and has been recognized by USP throughout the litigation (see, e.g., USP's Main Brief dated October 13, 1965, p. 11, where it is stated, "In broad outline, Alexander filed a first application on February 20, 1956. Shortly thereafter, on October 10, 1956, Alexander filed a second co-pending application for the same invention").

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[1] Col. 1, lines 15-19, 3057a. The specification of the early application, which was copending with the later application, is printed at 2934a-41a.

Correction of this error is believed to be important not only because of its possible unfavorable influence on the Court's determination as to the scope of the Alexander patent, but because the apparent treatment of the Judd patent as prior art may have an adverse effect on the validity of the Alexander patent in an action now pending in another Judicial Circuit.

2. The Court erred in stating at page 8 of its Opinion that the "Micro-Fine" operation adopted by U.S. Plywood "was already being used in the industry for finish polishing". This was repeated at page 13.

The Court's reference to "finish polishing" undoubtedly refers to the undisputed evidence that sheets of 10/0 waterproof silicon carbide grit sandpaper had been used to rub down varnish and lacquer top coats. This, however, is totally unlike the accused process because it is a pure cutting operation in which every effort is made to avoid softening the lacquer or varnish by heat.[2] For that reason, the top coat rubbing operation is performed by hand with sheets of sandpaper or with hand manipulated vibrating machines and at exceedingly light pressure,[3] and the surface is usually wet with water or kerosene.[4] This lacquer or varnish is a solid film which could not be densified, even if softened by heat,[5] as contrasted with white wood which is porous and is heat softened, compressed and densified by

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[2] USP'S Hemming, 737a-8a, Judd 96a.

[3] Fishleigh, 1799a, Judd, 96a. The pressures used are a tiny fraction of that employed in any accused operation, Fishleigh, 1432a, 1678a-9a, 1799a. For photographs and descriptions of the top coat rubbing operations, see pages 231 and 232 of "Coated Abrasives—Modern Tool of Industry", PX 3M 279 and page 10 of "The 3M System for Sanding and Varnishing Wood", PX 3M 2, neither of which were printed in the Appendix, apparently because U. S. Plywood did not rely on this prior art operation.

[4] Baker, 348a-50a, Judd, 96a, PX 1055, Tab. 24, 3107a, PX 3M 21, 2736a-7a. This necessitates the use of a waterproof sandpaper material wholly unlike the glue bonded aluminum oxide grit belts used by U.S. Plywood in the accused operations.

[5] Fishleigh, 1691a.

the accused process. Finally, such finishing operations in the prior art were never done by any type of belt machine let alone the wide belt machine, which is used in the accused process.

U.S. Plywood *never* challenged the patent on this ground nor urged to this Court that the prior use of fine grits to rub down varnish and lacquer coats had any relevancy to the question of the validity or scope of the Alexander patent. On the contrary, U.S. Plywood's Director of Research and Development at its Orangeburg plant,[6] Mr. Edmund Oeffinger, stated, "I can make no comparison, the two processes are so entirely different".[7] Nor did the District Court make any finding in conflict with Oeffinger's testimony.

This error had grave consequences because the Court went on to say that, in view of the prior use of fine grits for finish sanding, "If Alexander's patent should be broadly enough construed so as to apply to this operation, then it would be hard to ascribe to it the novelty, as opposed to prior-art, which is required for invention."

3. The Court erred in stating, at page 8 that the accused Micro-Fine process adopted by U.S. Plywood was a "fine sanding operation", and in basing its decision, at least in part, on the statement, at page 12, that there was "substantial evidence that the 10/0 sanding employed by U.S. Plywood did remove *significant amounts of stock".*

The parties have established by independent tests, which are in complete agreement, that the amount of wood removed in the accused 10/0 operation and by the cork belt process of the Alexander patent is essentially the same. There is no conflict in the evidence on this point.[8] Therefore, the fact that *some* wood is removed in the perform-

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[6] Oeffinger, 949a.

[7] Oeffinger, 961a.

[8] USP's tests: Back 298a, Oeffinger 971a; GPC's interparty tests: DX2097, 3569a, Fishleigh 1582a-4a.

ance of the accused process is *not* a basis for distinguishing it from the microseal process.

As far as the requirement for a "relatively nonabrasive" rubbing material is concerned, it is admitted by USP that the test of abrasiveness of a wood-rubbing operation is the amount of wood removed;[9] and tests run separately by *both* parties show that the cork belt operation and the accused 10/0 operation remove less than one-fifth the amount of wood removed in a 6/0 sanding operation,[10] which is a finer sanding operation than it was customary to use on white wood prior to the Alexander patent and finer than any U.S. Plywood had ever used in its commercial white wood sanding.[11] This clearly supports the claim requirement that the rubbing medium be "relatively nonabrasive".

The erroneous conclusion by the Court that the U.S. Plywood 10/0 operation was distinguished from microsealing by reason of the fact that it was accompanied by the removal of stock may well have resulted from the Court's belief that "Counsel for GPC" had conceded that "if USP was sanding in its accused operations then there was no infringement". The District Court erroneously attributed this statement to counsel for GPC, and this Court adopted the District Court's finding based on that error (top of page 12 of Opinion). The only statement along these lines made by counsel for GPC was that there would be no infringement if U.S. Plywood was "just sanding".[12] U.S. Plywood (in answer to Interrogatories) had previously admitted that in a sanding operation no densification results, and counsel for GPC was merely saying that if U.S. Plywood was doing *no more than* removing wood it was not infringing.

U.S. Plywood's accused process *does* remove wood, but it is not "*just* sanding", for it heats and compresses and densifies the surface wood and produces the additional re-

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[9] Back, 288a.

[10] USP's tests: PX1006, 2900a-13a, Back, 253a-4a, 309a-10a; GPC's tests: DX2097, 3569a, Fishleigh, 1582a-4a.

[11] USP's Answer to Interrogatories, 133 and 134, 3441a-2a. Request for Admissions 12, 3456a-7a.

[12] 31a-3a, 55a.

sult of increased hardness, smoothness and reflectivity and reduced porosity and absorbency, as the patent states (page 4 of Opinion). U.S. Plywood introduced its commercial use of the process with the announcement that it was achieving *precisely those same* additional results which characterize and distinguish microsealing.[13]

4. Miscellaneous errors.

It was error to adopt the District Court's conclusion that "it would be illogical to conclude" that the patent in suit "could be infringed by a belt designed and manufactured as an abrasive instrument but which became relatively non-abrasive because it was worn by use". Clearly, the purpose for which the belt was designed and manufactured has nothing to do with the question of what it *does* when *used* in a *manner* and on a *material* not contemplated by the designer or manufacturer. The evidence shows and U.S. Plywood admits that the Micro-Fine process reduces the porosity and absorbency of the wood. Neither the 10/0 belt nor the cork belt was designed for *that* purpose, *and it is for that very reason that the process as practiced with either is a startling departure from the prior art.*

It is not necessary to establish by "formula" or otherwise *"when"* the belts used in the accused operations cease to be abrasive because U.S. Plywood has established by its own evidence that its belts *as actually used* in the accused operations are relatively nonabrasive.

The term "non-metallic" is *not* a limitation in *any* of the claims and was not asserted by U.S. Plywood prior to this Appeal as a basis for distinguishing its process from that of the patent. There is *no* evidence in the record supporting the finding that U.S. Plywood's belts are "non-metallic", and neither the aluminum oxide grits themselves, which are corundum and thus chemically and structurally indistinguishable from a ruby,[14] nor the belt as a whole is metallic.

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[13] Admission 77 by USP, 3493a-4a.

[14] See Webster New International Dictionary, Second and Third Editions definitions of "ruby" and "corundum".

Any belts designed to run over pulleys or rolls are necessarily and inherently "flexible" in the sense of the patent and, because the belts used in the accused process are flexible and backed up by a soft roll, they are "yielding".

5. The Court erred in concluding that there was no infringement.

It is respectfully submitted that correction of the errors referred to above would remove all foundation for the Court's conclusion that there is no infringement. Not only will it then be clear that the patent is entitled to a broader construction without jeopardizing its validity, but that U.S. Plywood has admitted that the accused Micro-Fine process and the cork-belt process of the patent in suit are indistinguishable as regards the results achieved, the relative abrasiveness of the rubbing media employed, and the way in which the rubbing operation is performed. These facts establish infringement and do not depend upon evaluation of conflicting evidence.

For the reasons set forth above, a rehearing of the Appeal No. 16,194 and revision of the Court's Opinion of December 28, 1966 is respectfully requested.

It is certified by the undersigned, counsel for Appellant, that this Petition is presented in good faith and not for purposes of delay.

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ORDER BY THE UNITED STATES COURT OF APPEALS FOR THE SIXTH CIRCUIT

Nos 16,194-95

UNITED STATES COURT OF APPEALS
FOR THE SIXTH CIRCUIT

(Filed February 8, 1967)

United States Plywood Corporation,
Plaintiff-Appellee,
v.
General Plywood Corporation,
Defendant-Appellant.

United States Plywood Corporation,
Plaintiff-Cross-Appellant,
v.
General Plywood Corporation,
Defendant-Cross-Appellee.

Before: Phillips, Edwards and Celebrezze, Circuit Judges

On motion of defendant-appellant, General Plywood Corporation, entitled Petition for Rehearing and for Revision of Opinion, the opinion of the court announced December 28, 1966, is hereby revised by the substitution of the word "also" for the word "already" on page 3 line 18, and by the addition of a footnote referable to the date "October 10, 1956" on page 3 line 22 as follows:

> "1. Alexander had previously filed a "first application" in relation to much the same process on February 20, 1956. This application ultimately was abandoned."

Otherwise defendant-appellant's petition for rehearing, all issues thereof having been carefully considered previously, is denied.

Entered by order of the Court.

/s/ Carl W. Reuss,
Clerk.

CLAIM 7 OF THE ALEXANDER PATENT IN SUIT

Claim 7 (R 3061a) of G. E. Alexander Patent 2,827,935, in suit (R 3056a-62a)

7. A method of treating wood, comprising: providing a product having a relatively smooth and flat porous wood surface; moving that product edgewise relatively along a predetermined path extending longitudinally through a transverse work plane; moving an endless flexible rubbing medium, having a yielding relatively nonabrasive frictional heat insulating rubbing surface, at a relatively high rubbing speed toward and away from said surface at and along said transverse work plane; pressing said rubbing medium with a backing member into firm intimate frictional engagement with said wood surface to maintain a transversely extending band of rubbing contact therewith at and along said work plane; controlling the magnitude of the relative product speed through said work plane at a value providing momentary rubbing contact time of the order of a fraction of a second for each inch of contact band width; and correlatively controlling the magnitudes of the rubbing pressure against said surface and the rubbing speed relatively to the surface at values causing said medium, during its momentary time of contact with a given area of said wood surface, not only to generate frictional heat on said surface at the elevated temperature level required for heat plasticizing said wood surface along said work plane without plasticizing the underlying wood throughout its depth but simultaneously to pressure smooth and densify the surface wood without densifying the underlying wood throughout its depth.